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2003 FORD Taurus OEM Service and Repair Workshop Manual

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Possible Sources

- Suspect module

AH1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS) FROM THE MODULE SENDING INVALID DATA

- Ignition ON.
- Using a diagnostic scan tool, carry out the self-test for the module in question sending the invalid data.

Are any Diagnostic Trouble Codes (DTCs) present from the module sending the invalid data?

Yes	DIAGNOSE the module sending the invalid data. REFER to the appropriate section in the Workshop Manual.
No	DIAGNOSE the observable symptom present. REFER to the appropriate Symptom chart in this section.

PINPOINT TEST AI : U1000:00

Refer to Wiring Diagrams Cell 55for schematic and connector information.

Normal Operation and Fault Conditions The HVAC (heating, ventilation and air conditioning) control module uses solid state drivers Field Effect Transistors (FET) to control the output of climate control systems. When an overload occurs on any of these drivers, the module disables the output and tracks the number of repetitive faults on each of these circuits. The module compares this number of overloads to three progressive thresholds established for each circuit. At each threshold, DTC U1000:00 sets along with the DTC (diagnostic trouble code) associated with the affected circuit. For additional HVAC (heating, ventilation and air conditioning) control module Field-Effect Transistor (FET) information, REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) - System Operation and Component Description (412-00 Climate Control System - General Information, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
HVAC (heating, ventilation and air conditioning) U1000:00	Solid State Driver Protection Active -Driver Disabled: No Sub Type Information	The HVAC (heating, ventilation and air conditioning) control module has disabled a circuit due to a repetitive circuit overload and a progressive threshold is met.

P2600:00	Information	cabin heater coolant pump circuits.
PCM (powertrain control module) P2601:00	Coolant Pump 'A' Control Circuit Performance/Stuck Off: No Sub Type Information	• This DTC sets when the PCM senses any of the following conditions: • Dry-Run leads to cabin heater coolant pump running without resistance • Over Temperature • Over/Under Voltage • Impeller Stall • Impeller Speed below minimum speed • Internal Error • Pump communication signal unrecognized
PCM (powertrain control module) P2602:00	Coolant Pump 'A' Control Circuit Low: No Sub Type Information	This DTC (diagnostic trouble code) sets when the PCM (powertrain control module) senses low voltage on the PWM (pulse width modulation) circuit when commanding it high, indicating a short to ground to the cabin heater coolant pump.
PCM (powertrain control module) P2603:00	Coolant Pump 'A' Control Circuit High: No Sub Type Information	This DTC (diagnostic trouble code) sets when the PCM (powertrain control module) senses low voltage on the PWM (pulse width modulation) circuit when commanding it high, indicating an open circuit to the cabin heater coolant pump.

Possible Sources

- Wiring, terminals or connectors
- Low coolant or air in the coolant system
- Cabin heater coolant pump
- PCM (powertrain control module)

Visual Inspection and Pre-checks

- Make sure BJB (battery junction box) fuse 8 (10A) is OK.

NOTICE

Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

- Ignition ON.
- Using a diagnostic scan tool, CARRY OUT the PCM (powertrain control module) self-test. Record the PCM Diagnostic Trouble Codes (DTCs). CLEAR all PCM Diagnostic Trouble Codes (DTCs).
- Using the diagnostic scan tool, active command the cabin heater coolant pump on and allow it to run for a minimum of 5 minutes and monitor the status of the cabin heater coolant pump status PID (parameter identification) . Confirm if the cabin heater coolant pump is running by feeling or hearing the pump for vibration.
- Access the PCM (powertrain control module) and control the COOLANT_PMP_A (Coolant Pump -A- is Commanded On) PID (parameter identification)
- Access the PCM (powertrain control module) and monitor the COOLPMP_A_STAT (Coolant Pump -A- Control Diagnostic Status) PID (parameter identification)

Is DTC (diagnostic trouble code) P2600, P2601, P2602 or P2603 received or is the coolant pump not running?

Yes	GO to AJ3

No	GO to AJ6

AJ3 CHECK THE CABIN HEATER COOLANT PUMP CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect BJB (battery junction box) fuse 8 (10A) or (20A).
- Disconnect PCM (powertrain control module) , 2.7L C1232E, 3.3L C1551E or 3.5L C175E .
- Disconnect Cabin heater coolant pump C163 .
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C163-2	V	Ground
C163-3	V	Ground

Is there any voltage present?

C163-2	Ω	C1035B-47
C163-3	Ω	All Gasoline PCM E connectors pin 16

Are the resistances less than 3 ohms?

Yes	GO to AJ6

No	REPAIR the circuit.

AJ6 CHECK FOR CORRECT CABIN HEATER COOLANT PUMP OPERATION

- Ignition OFF.
- Disconnect Cabin heater coolant pump C163 .
- Repair:
  - corrosion (replace connector or terminals – clean module pins)
  - damaged or bent pins – replace terminals/pins
  - pushed-out pins – replace pins as necessary
- Connect all disconnected connectors-components.
  Make sure they seat and latch correctly
  .
- Ignition ON.
- Using a diagnostic scan tool, CLEAR all PCM (powertrain control module) Diagnostic Trouble Codes (DTCs) and CARRY OUT the PCM (powertrain control module) self-test.
- Using the diagnostic scan tool, active command the cabin heater coolant pump on and allow it to run for a minimum of 5 minutes and monitor the status of the cabin heater coolant pump status PID (parameter identification) . Confirm if the cabin heater coolant pump is running by feeling or hearing the pump for vibration.
- Access the PCM (powertrain control module) and control the COOLANT_PMP_A (Coolant Pump -A- is Commanded On) PID (parameter identification)
- Access the PCM (powertrain control module) and monitor the COOLPMP_A_STAT (Coolant Pump -A- Control Diagnostic Status) PID (parameter identification)

Does the cabin heater coolant pump run?

No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST AK : U2024:51, U2100:00

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
HVAC (heating, ventilation and air conditioning) U2024:51	Control Module Cal-Config Data: Not Programmed	This DTC (diagnostic trouble code) sets due to incomplete or improper PMI (programmable module installation) procedures.
HVAC (heating, ventilation and air conditioning) U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC (diagnostic trouble code) sets due to incomplete or improper PMI (programmable module installation) procedures.

Possible Sources

- Incomplete or incorrect PMI (programmable module installation)

AK1 CARRY OUT THE PMI (PROGRAMMABLE MODULE INSTALLATION) FOR THE SUSPECT MODULE

- Ignition ON.
- Using a diagnostic scan tool, carry out the PMI (programmable module installation) procedure for the suspect module as directed by the diagnostic scan tool.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the suspect module.
- Using a diagnostic scan tool, carry out the self-test for the suspect module.

Is the original DTC (diagnostic trouble code) still present?

Yes	CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new HVAC (heating, ventilation and air conditioning) control module. REFER to: Heating, Ventilation and Air Conditioning (HVAC) Control Module (412-00 Climate Control System - General Information, Removal and Installation).

REFER to: Air Conditioning (A/C) Compressor - 3.5L V6 PowerBoost (CN)(412-00 Climate Control System - General Information, Removal and Installation).

- For HVAC (heating, ventilation and air conditioning) control module, REFER to: Heating, Ventilation and Air Conditioning (HVAC) Control Module(412-00 Climate Control System - General Information, Removal and Installation).
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS (Online Automotive Service Information System) and follow the instructions for the applicable TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) .

No	The repair is complete.

PINPOINT TEST AM : U3003:16

Refer to Wiring Diagrams Cell 55for schematic and connector information.
Normal Operation and Fault Conditions The modules monitor the supplied voltage and set a DTC (diagnostic trouble code) if it falls below a threshold. **DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
HVAC (heating, ventilation and air conditioning) U3003:16	Battery Voltage: Circuit Voltage Below Threshold	HVAC (heating, ventilation and air conditioning) control module senses lower than expected system voltage.

Possible Sources

- Wiring, terminals or connectors
- Charging system concern
- Low battery
- HVAC (heating, ventilation and air conditioning) control module

AM1 RECHECK FOR LOW VOLTAGE DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.

AM4 COMPARE THE SUSPECT MODULE VOLTAGE SUPPLY PID (PARAMETER IDENTIFICATION) TO THE BATTERY VOLTAGE

- Ignition ON.
- Measure and record the battery voltage.
- For the suspect module, monitor the voltage supply PID (parameter identification) :
  - Access the HVAC (heating, ventilation and air conditioning) and monitor the VPWR (Module Supply Voltage) (V) PID (parameter identification)

Is the voltage reading within 0.2 volt of the recorded battery voltage?

Yes	For the HVAC (heating, ventilation and air conditioning) control module, GO to AM7

No	GO to AM5

AM5 CHECK THE MODULE VOLTAGE SUPPLY CIRCUIT FOR HIGH RESISTANCE

- Ignition OFF.
- Disconnect the suspect module.
- Ignition ON.
- Measure and record the battery voltage.
- For the suspect module, measure:
  HVAC (heating, ventilation and air conditioning) control module

Positive Lead	Measurement / Action	Negative Lead
C228A-26	V⎓	Ground

Is the voltage reading within 0.2 volt of the recorded battery voltage?

Yes	GO to AM6

No	REPAIR the circuit for high resistance.

	FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new HVAC (heating, ventilation and air conditioning) control module. REFER to: Heating, Ventilation and Air Conditioning (HVAC) Control Module (412-00 Climate Control System - General Information, Removal and Installation).

No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST AN : U3003:17

Refer to Wiring Diagrams Cell 55for schematic and connector information.
Normal Operation and Fault Conditions The modules monitor the supplied voltage and set a DTC (diagnostic trouble code) if it rises above a threshold. **DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
HVAC (heating, ventilation and air conditioning) U3003:17	Battery Voltage: Circuit Voltage Above Threshold	Sets in continuous memory and during the on-demand self-test when the HVAC (heating, ventilation and air conditioning) control module detects the supply voltage is greater than 16 volts. This DTC (diagnostic trouble code) may also set in the HVAC (heating, ventilation and air conditioning) control module due to battery charging or vehicle jump starting events.

Possible Sources

- Charging system concern
- HVAC (heating, ventilation and air conditioning) control module

NOTE

Diagnostic Trouble Code (DTC) U3003:17 may be stored in the module memory due to past battery charging or vehicle jump starting events.

AN1 CHECK FOR HIGH VOLTAGE DIAGNOSTIC TROUBLE CODES (DTCS) SET IN OTHER MODULES

- Ignition ON.

- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, clear the DTC (diagnostic trouble code) for the suspect module.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the suspect module setting the high voltage DTC (diagnostic trouble code) .

Is DTC (diagnostic trouble code) U3003:17 still present?

Yes	For the HVAC (heating, ventilation and air conditioning) control module, GO to AN4

No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set previously during battery charging or while jump starting the vehicle.

AN4 CHECK FOR CORRECT HVAC (HEATING, VENTILATION AND AIR CONDITIONING) CONTROL MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect all HVAC (heating, ventilation and air conditioning) control module electrical connectors.
- Repair:
  - corrosion (install new connector or terminal - clean module pins)
  - damaged or bent pins - install new terminals or pins
  - pushed-out pins - install new pins as necessary
- Connect all HVAC (heating, ventilation and air conditioning) control module electrical connectors. Make sure they seat and latch correctly. WAIT 20 seconds for the range calibration to be executed after reconnecting of the module before any further assessment or measurement is made. If the actuator range calibration does not start, or has been interrupted, PERFORM the HVAC (heating, ventilation and air conditioning) Calibration Routine, using a diagnostic scan tool.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new HVAC (heating, ventilation and air conditioning) control module. REFER to: Heating, Ventilation and Air Conditioning (HVAC) Control Module